

ABSTRACT

METHOD AND DEVICE FOR GENERATING A CONSTANT ENVELOPE
NAVIGATION SIGNAL WITH FOUR INDEPENDENT CODES

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The invention concerns a method and a device for generating a modulated navigation signal which is intended to be used to position a downlink receiver. Four pseudorandom navigation codes C1, C2, C1', C2' of chip rhythms greater than 0.5 MHz
10 are modulated onto a carrier of frequency f_p greater than 500 MHz according to an 8-PSK modulation of constant amplitude with a modulation frequency f_M such that:

$$8f_c \leq f_M$$

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where $f_c = \text{Max}(f_{ci})$, and f_{ci} designates the chip rhythms f_{c1} , $f_{c1'}$, f_{c2} , $f_{c2'}$ of the navigation codes C1, C2, C1', C2', each f_{ci} value being such that $f_M = N_i \cdot f_{ci}$, N_i being an integer greater than or equal to 8, two navigation codes C1, C1' being quadrature modulated at frequency $f_1 = f_p - f_M/8$, and
20 two other navigation codes C2, C2' being quadrature modulated at frequency $f_2 = f_p + f_M/8$, and the modulated navigation signal presenting a constant envelope. Application to radio navigation or radio positioning by satellites.

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